IDAHO DEPARTMENT
OF HEALTH AND WELFARE

DIVISION OF
ENVIRONMENTAL QUALITY

1420 North Hilton, Boise, ID 83706-1260, (208) 334-0550

Cecil D. Andrus, Governor

July 8, 1993

Mr. Mike Gaudette
Van Waters & Rogers, Inc.
2723 South Cole Road
Boise, Idaho 83709

Dear Mr. Gaudette:

The Division of Environmental Quality has reviewed your response to our comments regarding the draft Soil Boring Sampling and Analysis Plan (SAP) for the Preliminary Study Area. Your response to our first comment on vertical ground water flow is adequate. Also, your compromise on the monitoring of perc in the area near the Bali Hai well appears reasonable.

Please incorporate your proposed changes in the draft SAP and submit to our office for final approval.

Feel free to contact me at (208) 334-0550 if you have any questions concerning this matter.

Sincerely,

Rob Howarth

Rob Howarth
Environmental Hydrogeologist

cc: Chris Smith, HLA
Ron Lane, DEQ/SWIRO
Doug Conde, Deputy Attorney General
PSA File

Van Waters & Rogers Inc.
subsidiary of **Univar**

2723 S. Cole Road
Boise, ID 83709
PHONE: (208) 362-6545
FAX: (208) 362-6548

June 14, 1993

Mr. Rob Howarth
Idaho Department of Health and Welfare
Division of Environmental Quality
1420 North Hilton
Boise, Idaho 83706-1260

Dear Mr. Howarth:

Van Waters & Rogers Inc. has reviewed the comments received from the Division of Environmental Quality (DEQ) pertaining to the Soil Boring Sampling and Analysis Plan for the Preliminary Study Area. This plan contained details for the installation of monitoring wells at the distal end of the Affected Area and between the Affected Area and the Bali Hai community well. Comments received from the DEQ are reproduced in this letter followed by VW&R's response.

COMMENT 1:

Please explain how the absence of a shallow, low permeability confining layer indicates the lack or insignificance of downward ground water flow (page 5).

RESPONSE TO COMMENT 1:

The statement being referenced on pages 4 and 5 does not clearly convey the point being made. The sentence should be rewritten as follows: Although a shallow, low permeability confining layer was not encountered beneath the Mall, chemical data collected during the pilot boring program indicate that vertical (downward) ground water flow within the aquifer is not significant.

COMMENT 2:

We request that you amend your drilling plan to allow the northwestern-most monitoring well to be completed at the depth of the first screened interval of the Bali Hai community well. We will not require that the monitoring well be completed at this depth if a significant confining unit is encountered at a shallower depth. We believe that this change in the drilling plan will provide a greater security through early detection of contaminants approaching the Bali Hai well.

RESPONSE TO COMMENT 2:

VW&R shares the DEQ's concern for protection of water quality downgradient of the Affected Area, particularly in the vicinity of the Bali Hai community well. Installation of a monitoring well between the Affected Area and the Bali Hai well is an important component of any protection strategy; however, based on available data, we believe that a deep monitoring well is not warranted.

We have reviewed the well log for the Bali Hai well and have determined that the uppermost screened interval is from 347 feet to 356 feet below ground surface. Geophysical data for the well also indicates sandy gravel comprises the upper 40 feet of the borehole, followed by approximately 95 feet of silty sand. Beneath the silty sand, at a depth of approximately 135 feet and extending to a depth of 210 feet, is a "blue" clay. Alternating layers of sand, silty sand, and clay are found at depths greater than 210 feet. The thicknesses of the sand and silty sand layers range from approximately 20 feet to 50 feet; the thicknesses of the clay layers range from approximately 20 feet to 120 feet. The Bali Hai well is screened in the sand and silty sand layers.

Surface geophysical data collected from the horse pasture at 1941 Five Mile Road during the pilot boring program indicated the presence of significant reflectors typical of a clay layer at an approximate depth of 150 feet. This significant reflector likely corresponds to the blue clay noted on the Bali Hai well log. This layer, as well as deeper clay layers encountered during the drilling of the Bali Hai well, would be expected to inhibit downward flow of ground water under non-pumping conditions, and potentially under pumping conditions.

VW&R proposes that the influence, if any, pumping of the Bali Hai well has on the shallow aquifer be evaluated and appropriate action be implemented based on the results of the evaluation. To evaluate what effect pumping of the Bali Hai well has on the shallow aquifer, a monitoring well will be installed as described in the Soil Sampling and Analysis Plan. A data logger and transducer will be utilized to provide a record of water levels within the well. Water levels will be monitored during one pumping period (i.e., summer) and the three month period following cessation of pumping. In addition, two existing domestic wells will be added to the list of wells that are sampled each quarter. These include a 100-foot deep well located at the LDS church on Five Mile Road and a 269-foot well located at the distal end of the Affected Area. Data collected during the August 1992 sampling event indicated perc was not detected in either of the ground water samples collected from these wells.

If the results of the water-level monitoring and/or chemical sampling indicate movement of perc-containing ground water toward the Bali Hai well, additional well monitoring or protection alternatives will be evaluated.

We trust the clarification and modification presented above are acceptable to the DEQ. If you have any questions, or would like to discuss either if these issues further, please contact me at 362-6545. A voice mail message can also be left for me at 1-800/284-6264, extension 8455.

Sincerely,

Michael V. Gaudette
ac

Michael V. Gaudette
Senior Project Manager

Boise/SSAPCOM.RES

cc: Michelle Beekman, HLA
Wayne Grotheer, Univar
Ron Lane, DEQ
Doug Conde, Deputy Attorney General